

REMARKS

Claims 1 and 3-9 are pending in this application. Claim 9 stands withdrawn.

By this Amendment, independent claim 1 is amended to recite additional features disclosed in the specification at, for example, Table 1 (See bonding material No. 2 and No. 3, respectively), and to incorporate features recited in original claims 3 and 4. Claims 3 and 4 are amended to delete the features incorporated into claim 1.

Claims 2 and 10-14 are canceled without prejudice to or disclaimer of the subject matter recited therein.

No new matter is added. Reconsideration of the application is respectfully requested.

The Examiner is respectfully requested to acknowledge receipt of the certified copy of the priority document submitted to the PCT application, of which the present application is a national stage.

The Office Action rejects claims 1-8 and 10-14 under 35 U.S.C. §102(b) or §103(a) over JP 2002-085922 to Yoshida. This rejection is moot with respect to canceled claims 2 and 10-14, and is respectfully traversed with respect to the remaining claims 1 and 3-8.

Claim 1 is amended to recite additional features, as outlined above. Yoshida does not disclose or render obvious the subject matter recited in claim 1, as amended.

In Yoshida, silica-alumina, mullite, alumina, or silica is used as an inorganic fiber (paragraph [0050]). The inorganic fiber length is set in a range from 1 to 100 μm (paragraph [0052]). The mass percentage of content of the inorganic fibers in the bonding layer is set in a range from 25 to 60 wt% (paragraph [0054]).

The expression (1) in the amended claim 1 is not always satisfied by the condition described in paragraphs [0050] to [0054] of Yoshida. Specifically, when assigning 1 to 100 μm inorganic fiber length (L), 25 to 60 wt% mass percentage of content (W), and 2.0 to 4.0 g/cm^3 specific gravity (D) to the expression (1) in the amended claim 1, the expression

would be expressed as $0.0625 < L \times (W / D) / 100 < 30$. (Note that the specific gravity of inorganic fibers is not described in Yoshida. Thus, the specific gravity (D) was set in a range from 2.0 to 4.0 g/cm³ in the above calculation, the range is the common specific gravity such as silica-alumina, mullite, alumina, and silica.)

The conditions described in paragraphs [0050] and [0054] of Yoshida contain values that are smaller than the minimum value of $L \times (W / D)$ and larger than the maximum value of $L \times (W / D)$ defined in the amended claim 1. In view of the above, Yoshida only discloses a very general and broad range. Yoshida does not disclose the criticality of the specific range recited in claim 1, and thus does not disclose or render obvious the specific range recited in claim 1. The specific range recited in claim 1 and the associated criticality are discussed below.

When the value of $L \times (W / D)$ was larger than the maximum value defined in the amended claim 1 (i.e. 7.3), for example the bonding material No. 7 (the comparative example 2) and the bonding material No. 9 (the comparative example 4) described in the specification of the present application, cracks did not occur; however, extremely poor bonding strength was obtained, and detachment occurred between the bonding layer and the honeycomb segment. On the other hand, when the value of $L \times (W / D)$ was smaller than the minimum value defined in the amended claim 1 (i.e. 1.0), for example the bonding material No. 6 (the comparative example 1) and the bonding material No. 8 (the comparative example 3) described in the specification of the present application, cracks occurred in the bonding layers since the bonding layer could not exert sufficient elasticity. (See "Results" of "Examples" in the present specification.)

For instance, the bonding material No. 7 (the comparative example 2) shown in Table 1 of the present specification fulfills the condition described in Yoshida ($L=1\sim 100\mu\text{m}$,

W=25 to 60 wt%). Then, the value of $L \times (W / D)$ of the bonding material No. 7 (the comparative example 2) is verified as 8.8. Therefore, in the condition described in Yoshida, examples having extremely poor bonding strength and occurring of cracks are included.

On the other hand, in the amended claim 1, particular combinations of an average length of the oxide fibers "L", mass percentages of content of the oxide fibers "W", and specific gravity of oxide fibers "D" (i.e. the combination where the value of $L \times (W / D)$ is larger than 7.3 and the value of $L \times (W / D)$ is smaller than 1.0) are eliminated. Therefore, since extreme degrading of bonding strength and occurring of cracks are prevented, the bonding materials can be manufactured having both sufficient elasticity to withstand thermal stress and high bonding strength.

In view of the above, Yoshida fails to recognize the criticality of the specific range expressed in expression (1) recited in claim 1. Thus, Yoshida does not disclose or render obvious the subject matter recited in claim 1.

Moreover, even though one of ordinary skill in the art knows that the range of the average length of the oxide fibers L, the range of the mass percentage of the oxide fibers W, and the range of the specific gravity D, eliminating the particular combinations of "L", "W", and "D" is not disclosed or suggested in Yoshida. For this reason alone, Yoshida does not disclose or render obvious the subject matter recited in claim 1.

Claims 3-8 are patentable over Yoshida at least in view of the patentability of claim 1, from which they depend, as well as for additional features they recite.

Accordingly, withdrawal of the rejection of claims 1 and 3-8 under 35 U.S.C. §102(b) and §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 3-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: January 15, 2009

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